

## **AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A model repository system, comprising:

a data store for storing a plurality of data records;

a data mining application for analyzing the data records and for generating a plurality of data models; and

a model repository for storing the generated data models, wherein the model repository includes one or more index structures containing a plurality of attributes associated with the data models;

wherein the data models are predictive data models;

wherein the predictive data models are the entities being indexed by the one or more index structures such that the attributes of the predictive data models are stored within the one or more indexes.

2. (Original) The model repository system of claim 1, further comprising:

a model repository facility for exporting the generated data models to the model repository.

3. (Original) The model repository system of claim 2, further comprising:

a project folder store associated with the data mining application for temporary storage of the generated data models.

4. (Original) The model repository system of claim 3, wherein data models from the generated data models are selected for exporting into the model repository, wherein the

model repository facility exports the selected data models from the project folder store to the model repository.

5. (Original) The model repository system of claim 1, further comprising:

a search and retrieval interface for searching the one or more index structures in the model repository and for retrieving one or more of the data models based on the searching by the search and retrieval interface.

6. (Original) The model repository system of claim 5, wherein the search and retrieval interface is incorporated into a software application for automatically searching the index structures in the model repository and for retrieving one or more of the data models.

7. (Previously amended) The model repository system of claim 6, wherein the software application includes a comparison algorithm for determining which of the data models of the one or more retrieved data models is the most relevant model,

wherein the data models comprise predictive statistical models.

8. (Currently Amended) The model repository system of claim 5, wherein the search and retrieval interface is a stand-alone graphical user interface for human users to manually search ~~searching~~ the index structures in the model repository and to retrieve ~~for retrieving~~ one or more of the data models;

wherein the graphical user interface is configured to allow a human user to supply predictive data model attribute search parameters for searching against the

attributes stored in the one or more index structures in order to retrieve a predictive data model for use and modification by the human user.

9. (Original) The model repository system of claim 1, wherein the data store is a data warehouse.

10. (Original) The model repository system of claim 2, wherein the model repository facility is integrated into the data mining application.

11. (Original) The model repository system of claim 2, wherein the model repository facility is a stand-alone software application.

12. (Original) The model repository system of claim 1, wherein the one or more index structures include a main index and one or more special indexes, wherein the main index includes attributes of all the data models stored in the model repository, and the one or more special indexes include attributes from a sub-set of all the models stored in the model repository.

13. (Original) The model repository system of claim 12, wherein the one or more special indexes include a tree-type index for storing attributes associated with models that are generated using a decision tree algorithm.

14. (Original) The model repository system of claim 13, further comprising a mini-index associated with the tree-type index for storing a sub-set of all the attributes stored in the tree-type index.

15. (Original) The model repository system of claim 13, wherein the attributes stored in the tree-type index include a plurality of splitting variables associated with the decision tree algorithm.

16. (Original) The model repository system of claim 1, wherein the one or more index structures are organized into attribute tables.

17. (Previously amended) The model repository system of claim 16, wherein the attribute tables include a main attribute table for storing a main index and a tree-type table for storing a tree-type index, wherein the main and tree-type attribute tables include a plurality of rows and columns, wherein each row in the attribute tables is associated with a particular data model, and wherein each column in the attribute tables is associated with at least one attribute, said attribute tables including a mini-index attribute table that has a plurality of rows and a column, wherein each row in the mini-index attribute table is associated with one attribute in the tree-type attribute table.

18. (Original) The model repository system of claim 1, wherein the model repository is organized into a plurality of storage levels.

19. (Original) The model repository system of claim 18, wherein the plurality of storage levels include a project level, a diagram level, and a model level.

20. (Original) The model repository system of claim 19, wherein a particular data model is stored in the model repository at the model level.

21. (Original) The model repository system of claim 20, wherein each model stored at the model level is associated with a particular diagram stored at the diagram level.

22. (Original) The model repository system of claim 21, wherein each diagram stored at the diagram level includes a set of specifications for operating the data mining application.

23. (Original) The model repository system of claim 22, wherein each diagram stored at the diagram level is associated with a particular project folder stored at the project level.

24. (Original) The model repository system of claim 19, wherein the attributes of each data model are associated with at least one of the model level, the diagram level, or the project level.

25. (Original) The model repository system of claim 1, wherein at least one of the attributes is automatically associated with each data model by the data mining application.

26. (Original) The model repository system of claim 1, wherein at least one of the attributes is manually associated with the data models by a user of the system.

27. (Original) The model repository system of claim 1, wherein the one or more index structures at least includes one index for storing one set of attributes and other indexes for storing other different sets of attributes.

28. (Original) The model repository system of claim 2, further comprising:

at least three configuration files stored in the model repository, wherein a first configuration file stores information that is used by the model repository facility in exporting the generated data models to the model repository, and second and third configuration files store information that is used by the model repository system in building the main index in the model repository from attributes supplied by human end users and from the data mining application.

29. (Original) The model repository system of claim 2, wherein the model repository facility builds the index structures stored in the model repository after one or more selected models have been exported to the model repository.

30. (Original) The model repository system of claim 1, further comprising:

a plurality of model repositories for storing the generated data models, wherein each of the plurality of model repositories includes one or more index structures

containing a plurality of attributes that describe the data models stored in the respective model repository.

31. (Currently Amended) A data modeling method, comprising the steps of:

generating a plurality of data models using a data mining application;

storing the plurality of data models in a database associated with the data mining application;

selecting one or more of the plurality of data models;

exporting the selected data models from the database to a model repository; and

generating an index of the data models stored in the model repository wherein the index is based upon a plurality of attributes associated with the data models in the model repository;

wherein the data models are predictive data models;

wherein the predictive data models are the entities being indexed by the one or more index structures such that the attributes of the predictive data models are stored within the one or more indexes.

32. (Original) The data modeling method of claim 31, further comprising the step of:

organizing the database into a plurality of project folders and storing the data models in the respective project folders within the database.

33. (Original) The data modeling method of claim 31, further comprising the step of:

searching the index and retrieving one or more of the data models stored in the model repository.

34. (Original) The data modeling method of claim 31, further comprising the step of:

providing a software mechanism for searching the index and retrieving one or more of the data models stored in the model repository.

35. (Original) The data modeling method of claim 34, further comprising the step of:

comparing the retrieved data models to determine which model is the most relevant.

36. (Original) The data modeling method of claim 31, further comprising the step of:

automatically associating one or more attributes with the data models when they are generated by the data mining application.

37. (Original) The data modeling method of claim 31, further comprising the step of:

manually associating one or more attributes with the selected data models before the exporting step.

38. (Original) The data modeling method of claim 31, wherein the generating one or more indexes step further includes the steps of:

generating a main index that includes attributes of all the models stored in the model repository; and



generating one or more special indexes that include attributes from a sub-set of all the models stored in the model repository.

39. (Original) The data modeling method of claim 31, further comprising the steps of:

organizing main-type index and tree-type index as attribute tables that include a plurality of rows and columns, wherein each row in the attribute table is associated with a particular data model, and wherein each column in the attribute table is associated with a particular attribute; and

organizing a mini-index as an attribute table that includes a plurality of rows and one column, wherein each row in the attribute table is associated with one attribute in the tree-type index.

40. (Original) The data modeling method of claim 31, further comprising the step of:

organizing the model repository into a plurality of storage levels.

41. (Original) The data modeling method of claim 31, wherein the exporting step further comprises the steps of:

specifying an address of the model repository;

determining whether a user who selected the one or more data models has write access to the model repository; and

if the user does have write access, then exporting the selected data models to the model repository identified by the address,

and if the user does not have write access, then notifying the user that the export operation cannot be accomplished.

42. (Original) The data modeling method of claim 41, wherein the exporting step further comprises the steps of:

- creating an export object;
- initializing the export object;
- querying a first configuration file in the model repository to determine what data from the selected data models is to be exported to the model repository;
- querying second and third configuration files in the model repository to determine what data from the data models in the model repository is to build a main index in the model repository;
- configuring the export object based on the querying step; and
- invoking an export method on the export object; and
- building the main index based on the querying of the second and third configuration files step.

43. (Original) The data modeling method of claim 31, further comprising the steps of:

- selecting one or more additional data models;
- exporting the selected one or more additional data models from the database to the model repository; and
- regenerating the index.

44. (Original) The data modeling method of claim 31, further comprising the steps of:

generating one or more indexes of the data models stored in the model repository wherein the indexes are based upon a plurality of attributes associated with the data models in the model repository.

selecting one or more additional data models;

exporting the selected one or more additional data models from the database to the model repository; and

regenerating the one or more indexes.

45. (Currently Amended) A data modeling method, comprising the steps of:

associating one or more attributes with each of a plurality of data models;

exporting the plurality of data models to a model repository;

generating one or more index structures comprising the one or more attributes of each of the data models in the model repository; and

providing a search mechanism and a retrieval mechanism for searching the one or more index structures in order to retrieve one or more data models from the model repository;

wherein the data models are predictive data models;

wherein the predictive data models are the entities being indexed by the one or more index structures such that the attributes of the predictive data models are stored within the one or more indexes.

46. (Currently Amended) A computer-implemented model repository system for managing data models, comprising:

a model repository that stores the data models;

a data input module that processes attribute information descriptive of the data models; and

at least one searchable index whose data structure contains storage locations for the attribute information;

said attributes in the index are searchable in order to locate at least one of the data models;

wherein the data models are predictive data models;

wherein the predictive data models are the entities being indexed by the one or more index structures such that the attributes of the predictive data models are stored within the one or more indexes.

47. (Original) The model repository system of claim 46 wherein the data input module includes a model repository facility that exports the data models to the model repository, said model repository facility building the index structure stored in the model repository after one or more data models have been exported to the model repository.

48. (Original) The model repository system of claim 47, further comprising:

a first configuration file that stores information that is used by the model repository facility in exporting the data models to the model repository; and

second and third configuration files that store information that is used by the model repository system in building a main index in the model repository from attributes supplied by human end users and from a data mining application.

49. (Original) The model repository system of claim 46 wherein the model repository system has a connection to a network and receives an index search request across the network.

50. (Previously amended) The model repository system of claim 49 wherein the network is an Internet network.

51. (Original) The model repository system of claim 46, further comprising:

a search and retrieval interface for searching the one or more index data structures in the model repository and for retrieving one or more of the data models based on the searching by the search and retrieval interface.

52. (Original) The model repository system of claim 46, further comprising:

a project folder store associated with a data mining application for temporary storage of data models generated by a data mining application.

53. (Original) The model repository system of claim 46 further comprising:

a software application that includes a comparison algorithm for determining which of the data models is the most relevant model.

54. (Original) The model repository system of claim 46, wherein the one or more index structures include a main index and one or more special indexes, wherein the main index includes attributes of the data models stored in the model repository, and the one or more special indexes include attributes from a sub-set of the data models stored in the model repository.

55. (Original) The model repository system of claim 54, wherein the one or more special indexes include a tree-type index for storing attributes associated with data models that are generated using a decision tree algorithm.

56. (Original) The model repository system of claim 55, further comprising:

a mini-index associated with the tree-type index for storing a sub-set of the attributes stored in the tree-type index.

57. (Original) The model repository system of claim 56, wherein the attributes stored in the tree-type index include a plurality of splitting variables associated with the decision tree algorithm.

58. (Original) The model repository system of claim 46, wherein the model repository is organized into a plurality of storage levels.

59. (Original) The model repository system of claim 58, wherein the plurality of storage levels include a project level, a diagram level, and a model level.

60. (Original) The model repository system of claim 59, wherein a particular data model is stored in the model repository at the model level.

61. (Original) The model repository system of claim 60, wherein each model stored at the model level is associated with a particular diagram stored at the diagram level.

62. (Original) The model repository system of claim 61, wherein each diagram stored at the diagram level includes a set of specifications for operating a data mining application.

63. (Original) The model repository system of claim 62, wherein each diagram stored at the diagram level is associated with a particular project folder stored at the project level.

64. (Original) The model repository system of claim 59, wherein the attributes of the data models are associated with at least one of the model level, the diagram level, or the project level.

65. (Original) The model repository system of claim 46, further comprising:

a plurality of model repositories for storing the data models, wherein each of the plurality of model repositories includes one or more index structures containing a plurality of attributes that describe the data models stored in the respective model repository.

66. (Original) The model repository system of claim 46, further comprising:

group-specific indexes for storing group-specific attributes to search the data models in the model repository.

67. (Previously amended) The model repository system of claim 66 wherein the group-specific indexes are indexes selected from the group consisting of a marketing-specific index for storing marketing-related attributes to search the data models in the model repository, sales-specific indexes for storing sales-related attributes to search the data models in the model repository, and combinations thereof.



68. (New) A model repository system, comprising:

a data store for storing a plurality of data records;

a data mining application for analyzing the data records and for generating a plurality of predictive data models; and

a model repository for storing the generated predictive data models, wherein the model repository includes one or more index structures containing a plurality of attributes associated with the predictive data models;

wherein the predictive data models are the entities being indexed by the one or more index structures such that the attributes of the predictive data models are stored within the one or more indexes;

a stand-alone graphical user interface for human users to manually search the index structures in the model repository and to retrieve one or more of the data models;

wherein the graphical user interface is configured to allow a human user to supply predictive data model attribute search parameters for searching against the attributes stored in the one or more index structures in order to retrieve a predictive data model for use by the human user.

69. (New) The model repository system of claim 68, wherein the retrieved model provided to the human user is allowed to be modified by the human user.

70. (New) The model repository system of claim 69, wherein the graphical user interface is configured to allow a first human user to retrieve and view data model attribute

information associated with a predictive data model that was created by a second human user.

71. (New) The model repository system of claim 70, wherein the graphical user interface is configured to allow the first human user to retrieve and modify the second human user's created predictive data model despite the first human user working on a different project than the project under which the predictive data model was originally created by the second human user.

72. (New) The model repository system of claim 70, wherein the graphical user interface is configured to allow multiple human users working on multiple different projects to retrieve and modify a first predictive data model.

73. (New) The model repository system of claim 70, wherein the human user is a business analyst;

wherein the retrieved predictive data model is to be executed by the business analyst in order to identify patterns in the business analyst's data so that a business recommendation may be formulated.

74. (New) The model repository system of claim 72, wherein the graphical user information provides information to a human user in order for the human user to learn about a retrieved predictive data model, including how up-to-date the retrieved data model is, the human user which created the retrieved data model, what patterns may have been detected in a data set, how well a pattern represented an analyzed data set;

wherein the provided information allows a human user to learn how applicable a predictive data model is with respect to a human user's current predictive data modeling needs.

75. (New) The model repository system of claim 74, wherein a first predictive data model and a second predictive data model are retrieved by a human user;

wherein the first retrieved predictive data model is determined by the human user to be more relevant to the human user's needs than the second retrieved predictive data model;

wherein said determination by the human user is made at least in part based upon attribute information retrieved about the first and second predictive data models.

76. (New) A model repository system, comprising:

- a data store for storing a plurality of data records;

- a data mining application for analyzing the data records and for generating a plurality of data models; and

- a model repository for storing the generated data models, wherein the model repository includes one or more index structures containing a plurality of attributes associated with the data models;

- a model repository facility for exporting the generated data models to the model repository;

- a first configuration data store that stores information to be used by the model repository facility in exporting the generated data models to the model repository;

- a second configuration data store that stores information to be used by the model repository system in building the one or more indexes in the model repository.

77. (New) The model repository system of claim 76, wherein the first and second configuration data stores comprise configuration files;

- wherein the second configuration file and a third configuration file store information that is used by the model repository system in building a main index in the model repository from attributes supplied by human end users and from a data mining application.